

VAN BUREN COUNTY
JOE PARMAN, DRAIN COMMISSIONER

DAM INSPECTION REPORTS

APRIL, 2011

PROJECT NO. 9527-6

FOR:

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BRANDYINE LAKE	3-6
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**JOE PARMAN
VAN BUREN COUNTY DRAIN COMMISSIONER**

DAM INSPECTION REPORTS – APRIL, 2011

Summary:

The following lake level structures need work performed in order to assure that they properly maintain the water level designated by the court:

Brandywine Lake

The county drain south of Brandywine Road may need cleaning.

Great Bear Lake

The area inside the fenced area is overgrown with brush and trees. These should be removed and stumps should be treated with herbicide.

Scott Lake

There is some erosion at the outlet pipe. Fill and riprap are needed to stabilize the embankment.

Lake of the Woods

Both steel sheeting wingwalls are developing holes from corrosion. Consideration should be given to repair or replacement of the structure. Trees and brush growing adjacent to the wingwalls should be removed.

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
LAND AND WATER MANAGEMENT DIVISION
DAM INSPECTION REPORT**

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A person failing to comply, or falsely representing dam conditions, is guilty of misconduct in office.

DAM NAME Brandywine Lake Level Control Structure		DAM ID 2019	COUNTY Van Buren
DATE OF INSPECTION April 29, 2011	NAME OF WATERBODY Brandywine Lake	SECTION, TOWN, RANGE Sec. 29, T1S., R13W.	LEVEL THIS DATE 772.1
DATE OF ELEVATION SET BY COURT September 16, 1966	LEGAL LEVEL 771.0	DRAWDOWN LEVEL N.A.	HIGH WATER MARK ELEVATION

EARTH EMBANKMENTS LEFT EMBANKMENT _____ FT. RIGHT EMBANKMENT _____ FT. TOTAL LENGTH _____ FT.
(LOOKING DOWNSTREAM)

	UPSTREAM	CROWN	DOWNSTREAM
VEGETATION COVER			
EROSION			
SEEPAGE			
SLIDES, SLUMPS & CRACKS			
ANIMAL BURROWS			
WAVE ACTION PROTECTION			
REMARKS*			

CONTROL STRUCTURE

TYPE Steel Sheet Piling	YEAR CONSTRUCTED 2003	STRUCTURAL HEIGHT (top of dam elevation minus stream invert)
LENGTH OF SPILL WAY 20'	FREEBOARD	HYDRAULIC HEIGHT (design flood elevation minus stream invert)
VERTICAL PIPE SIZE	HORIZONTAL PIPE SIZE	HEAD (normal headwater minus normal tailwater)

DESCRIBE CONDITION OF THE FOLLOWING ITEMS.

STOPLOG VALVES AND GATES (open and close to check condition): Check location of top stoplog in relation to top of riser pipe intake box or fixed crest, for leakage, and condition of stoplogs, valves and gates.

None

OUTLET PIPE: Check for damage from ice, logs, vandalism; inside discharge pipe for settlement and/or joint separation; condition of pipe coating.

None

CONTROL STRUCTURE (continued)

CONCRETE STRUCTURE: Check for erosion; location of cracking or spalling. If old or new; settlement; need for crank repairs.

None

WALKWAY & RAILING: Check if in place or removed, condition, and if adequate protection provided.

None

TRASHRACK OR LOG BOOM: Check if operable.

None

EMERGENCY SPILLWAY: Size, type and condition.

None

INLET & OUTLET CHANNELS

	INLET	OUTLET
SIZE	10'	6'
EXISTING CONDITION	High from recent rains	High from recent rains
EROSION	None	None
DEBRIS & OBSTRUCTIONS	None	None
RIPRAP PROTECTION	Not visible	Not visible
REMARKS*	None	None

RECOMMENDATIONS

List work needed, how to be done, by whom, estimated cost, source of funds, recommended completion date. If emergency, to what extent. ADDITIONAL COMMENTS.

No difference in upstream and downstream water elevation. Past reports have indicated downstream channel needs cleaning. Weir submerged due to recent rains.

Inspection Ordered By: Joe Parman - Van Buren County Drain Commissioner

Van Buren County Delegated Agent

Jeffrey S. Wingard

INSPECTOR'S NAME (PRINTED)

SIGNATURE

Michigan - 45106

P.E. REGISTRATION NO.

4568 Red Arrow Highway

ADDRESS

Stevensville, MI 49127

CITY, STATE, ZIP CODE

(269) 428-4424

TELEPHONE NO.

Please submit this completed report and photographs of the dam, downstream channel, and deficiencies cited in the report to:

DAM SAFETY

LAND AND WATER MANAGEMENT DIVISION

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

PO BOX 30458

LANSING MI 48909-7958

*NOTE: If space is inadequate for remarks, attach additional sheets as needed.





CONTROL STRUCTURE AND INLET CHANNEL



OUTLET CHANNEL

BRANDYWINE LAKE

CONTROL STRUCTURE (continued)

CONCRETE STRUCTURE: Check for erosion; location of cracking or spalling. If old or new; settlement; need for crank repairs.

None

WALKWAY & RAILING: Check if in place or removed, condition, and if adequate protection provided.

None

TRASHRACK OR LOG BOOM: Check if operable.

None

EMERGENCY SPILLWAY: Size, type and condition.

None

INLET & OUTLET CHANNELS

	INLET	OUTLET
SIZE	Structure at edge of Lake	10'
EXISTING CONDITION	Good	Good
EROSION	None	None
DEBRIS & OBSTRUCTIONS	None	None
RIPRAP PROTECTION	None	
REMARKS*		

RECOMMENDATIONS

List work needed, how to be done, by whom, estimated cost, source of funds, recommended completion date. If emergency, to what extent. ADDITIONAL COMMENTS.

None

Inspection Ordered By: Joe Parman - Van Buren County Drain Commissioner

Van Buren County Delegated Agent

Jeffrey S. Wingard

INSPECTOR'S NAME (PRINTED)

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**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
LAND AND WATER MANAGEMENT DIVISION
DAM INSPECTION REPORT**

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DAM NAME Gravel Lake Level Control Structure		DAM ID 2021	COUNTY Van Buren
DATE OF INSPECTION April 29, 2011	NAME OF WATERBODY Gravel Lake	SECTION, TOWN, RANGE Sec. 32 T. 4S., R.13W.	LEVEL THIS DATE 881.7
DATE OF ELEVATION SET BY COURT July 25, 1949	LEGAL LEVEL 881.3	DRAWDOWN LEVEL N.A.	HIGH WATER MARK ELEVATION

EARTH EMBANKMENTS LEFT EMBANKMENT _____ FT. RIGHT EMBANKMENT _____ FT. TOTAL LENGTH _____ FT.
(LOOKING DOWNSTREAM)

	UPSTREAM	CROWN	DOWNSTREAM
VEGETATION COVER			
EROSION			
SEEPAGE			
SLIDES, SLUMPS & CRACKS			
ANIMAL BURROWS			
WAVE ACTION PROTECTION			
REMARKS*			

CONTROL STRUCTURE

TYPE U Shaped Sheet Piling	YEAR CONSTRUCTED 1950	STRUCTURAL HEIGHT (top of dam elevation minus stream invert)
LENGTH OF SPILL WAY 29'	FREEBOARD 2'	HYDRAULIC HEIGHT (design flood elevation minus stream invert)
VERTICAL PIPE SIZE	HORIZONTAL PIPE SIZE	HEAD (normal headwater minus normal tailwater)

DESCRIBE CONDITION OF THE FOLLOWING ITEMS.

STOPLOG VALVES AND GATES (open and close to check condition): Check location of top stoplog in relation to top of riser pipe intake box or fixed crest, for leakage, and condition of stoplogs, valves and gates.

None

OUTLET PIPE: Check for damage from ice, logs, vandalism; inside discharge pipe for settlement and/or joint separation; condition of pipe coating.

None



CONTROL STRUCTURE AND OUTLET CHANNEL



CONTROL STRUCTURE AND SHORELINE

GRAVEL LAKE

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LAND AND WATER MANAGEMENT DIVISION
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DAM NAME Great Bear Lake Level Control Structure		DAM ID 2022	COUNTY Van Buren
DATE OF INSPECTION April 29, 2011	NAME OF WATERBODY Great Bear Lake	SECTION, TOWN, RANGE Sec. 24, T.1S., R.15W,	LEVEL THIS DATE 677.0
DATE OF ELEVATION SET BY COURT 1963/1986	LEGAL LEVEL 676.8 Summer 675.8 Winter	DRAWDOWN LEVEL	HIGH WATER MARK ELEVATION

EARTH EMBANKMENTS LEFT EMBANKMENT _____ FT. RIGHT EMBANKMENT _____ FT. TOTAL LENGTH _____ FT.
(LOOKING DOWNSTREAM)

	UPSTREAM	CROWN	DOWNSTREAM
VEGETATION COVER			
EROSION			
SEEPAGE			
SLIDES, SLUMPS & CRACKS			
ANIMAL BURROWS			
WAVE ACTION PROTECTION			
REMARKS*			

CONTROL STRUCTURE

TYPE Sheet Pile	YEAR CONSTRUCTED 1986	STRUCTURAL HEIGHT (top of dam elevation minus stream invert)
LENGTH OF SPILL WAY 25 feet	FREEBOARD	HYDRAULIC HEIGHT (design flood elevation minus stream invert)
VERTICAL PIPE SIZE	HORIZONTAL PIPE SIZE	HEAD (normal headwater minus normal tailwater)

DESCRIBE CONDITION OF THE FOLLOWING ITEMS.

STOPLOG VALVES AND GATES (open and close to check condition): Check location of top stoplog in relation to top of riser pipe intake box or fixed crest, for leakage, and condition of stoplogs, valves and gates.

Stoplogs in fish ladder were submerged during inspection. Past report indicated they were in fair to poor condition.

OUTLET PIPE: Check for damage from ice, logs, vandalism; inside discharge pipe for settlement and/or joint separation; condition of pipe coating.

None

CONTROL STRUCTURE (continued)

CONCRETE STRUCTURE: Check for erosion; location of cracking or spalling. If old or new; settlement; need for crank repairs.

None

WALKWAY & RAILING: Check if in place or removed, condition, and if adequate protection provided.

None

TRASHRACK OR LOG BOOM: Check if operable.

None

EMERGENCY SPILLWAY: Size, type and condition.

None

INLET & OUTLET CHANNELS

	INLET	OUTLET
SIZE	50'	20'
EXISTING CONDITION	Good	Good
EROSION	None	None
DEBRIS & OBSTRUCTIONS	None	None
RIPRAP PROTECTION	None	Fair
REMARKS*		

RECOMMENDATIONS

List work needed, how to be done, by whom, estimated cost, source of funds, recommended completion date. If emergency, to what extent. ADDITIONAL COMMENTS.

Brush and trees growing in and around fenced fish ladder area and should be removed and stumps treated with herbicide.

Inspection Ordered By: Joe Parman - Van Buren County Drain Commissioner

Van Buren County Delegated Agent

Jeffrey S. Wingard

INSPECTOR'S NAME (PRINTED)



SIGNATURE

Michigan - 45106

P.E. REGISTRATION NO.

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ADDRESS

Stevensville, MI 49127

CITY, STATE, ZIP CODE

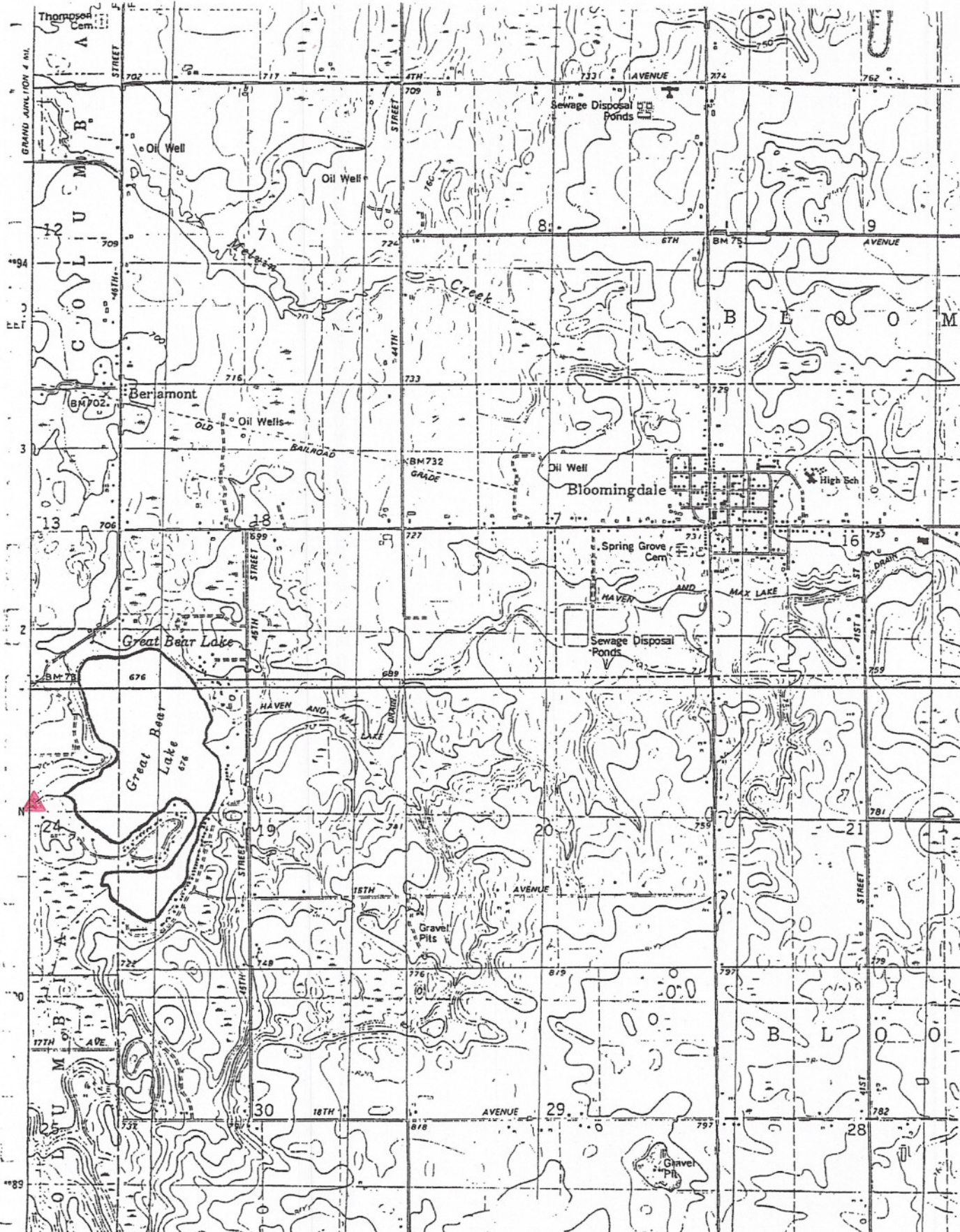
(269) 428-4424

TELEPHONE NO.

Please submit this completed report and photographs of the dam, downstream channel, and deficiencies cited in the report to:

DAM SAFETY
LAND AND WATER MANAGEMENT DIVISION
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
PO BOX 30458
LANSING MI 48909-7958

*NOTE: If space is inadequate for remarks, attach additional sheets as needed.





CONTROL STRUCTURE AND INLET CHANNEL



CONTROL STRUCTURE

GREAT BEAR LAKE

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
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DAM NAME Magician Lake Level Control Structure		DAM ID 1939	COUNTY Van Buren
DATE OF INSPECTION April 29, 2011	NAME OF WATERBODY Magician Lake	SECTION, TOWN, RANGE Sec. 34, 3 & 4, T.4S., R.16W.	LEVEL THIS DATE 762.8
DATE OF ELEVATION SET BY COURT November 13, 1962	LEGAL LEVEL 763.0 Summer 762.0 Winter	DRAWDOWN LEVEL 762.4	HIGH WATER MARK ELEVATION

EARTH EMBANKMENTS LEFT EMBANKMENT _____ FT. RIGHT EMBANKMENT _____ FT. TOTAL LENGTH _____ FT.
(LOOKING DOWNSTREAM)

	UPSTREAM	CROWN	DOWNSTREAM
VEGETATION COVER			
EROSION			
SEEPAGE			
SLIDES, SLUMPS & CRACKS			
ANIMAL BURROWS			
WAVE ACTION PROTECTION			
REMARKS*			

CONTROL STRUCTURE

TYPE Concrete Weir	YEAR CONSTRUCTED 1964	STRUCTURAL HEIGHT (top of dam elevation minus stream invert)
LENGTH OF SPILL WAY 5'	FREEBOARD 2' +/-	HYDRAULIC HEIGHT (design flood elevation minus stream invert)
VERTICAL PIPE SIZE None	HORIZONTAL PIPE SIZE None	HEAD (normal headwater minus normal tailwater) 1.0 +/-

DESCRIBE CONDITION OF THE FOLLOWING ITEMS.

STOPLOG VALVES AND GATES (open and close to check condition): Check location of top stoplog in relation to top of riser pipe intake box or fixed crest, for leakage, and condition of stoplogs, valves and gates.

No Stoplogs in place

OUTLET PIPE: Check for damage from ice, logs, vandalism; inside discharge pipe for settlement and/or joint separation; condition of pipe coating.

None

CONTROL STRUCTURE (continued)

CONCRETE STRUCTURE: Check for erosion; location of cracking or spalling. If old or new; settlement; need for crank repairs.

Good

WALKWAY & RAILING: Check if in place or removed, condition, and if adequate protection provided.

Good

TRASHRACK OR LOG BOOM: Check if operable.

None

EMERGENCY SPILLWAY: Size, type and condition.

None

INLET & OUTLET CHANNELS

	INLET	OUTLET
SIZE	30'	10'
EXISTING CONDITION	Fair	Good
EROSION	None	None
DEBRIS & OBSTRUCTIONS	None	None
RIPRAP PROTECTION	Good	Good
REMARKS*	None	None

RECOMMENDATIONS

List work needed, how to be done, by whom, estimated cost, source of funds, recommended completion date. If emergency, to what extent. ADDITIONAL COMMENTS.

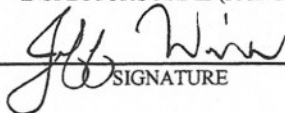
None

Inspection Ordered By: Joe Parman - Van Buren County Drain Commissioner

Van Buren County Delegated Agent

Jeffrey S. Wingard

INSPECTOR'S NAME (PRINTED)



SIGNATURE

Michigan - 45106

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LANSING MI 48909-7958

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LEVEL CONTROL STRUCTURE – STOPLOG RAISED



OUTLET CHANNEL

MAGICIAN LAKE

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DAM NAME Pugsley (Brownwood) Lake Level Control Str.		DAM ID 2023	COUNTY Van Buren
DATE OF INSPECTION April 29, 2011	NAME OF WATERBODY Pugsley Lake (Brownwood Lake)	SECTION, TOWN, RANGE Sec. 3, T.3S., R.14W.	LEVEL THIS DATE 696.9
DATE OF ELEVATION SET BY COURT April 29, 1986	LEGAL LEVEL 696.5	DRAWDOWN LEVEL	HIGH WATER MARK ELEVATION

EARTH EMBANKMENTS LEFT EMBANKMENT _____ FT. RIGHT EMBANKMENT _____ FT. TOTAL LENGTH _____ FT.
(LOOKING DOWNSTREAM)

	UPSTREAM	CROWN	DOWNSTREAM
VEGETATION COVER			
EROSION			
SEEPAGE			
SLIDES, SLUMPS & CRACKS			
ANIMAL BURROWS			
WAVE ACTION PROTECTION			
REMARKS*			

CONTROL STRUCTURE

TYPE Drop Inlet at Culvert	YEAR CONSTRUCTED 1970	STRUCTURAL HEIGHT (top of dam elevation minus stream invert)
LENGTH OF SPILL WAY	FREEBOARD 1.5'	HYDRAULIC HEIGHT (design flood elevation minus stream invert)
VERTICAL PIPE SIZE 4' x 4' Opening	HORIZONTAL PIPE SIZE 29" x 18" Arch	HEAD (normal headwater minus normal tailwater)

DESCRIBE CONDITION OF THE FOLLOWING ITEMS.

STOPLOG VALVES AND GATES (open and close to check condition): Check location of top stoplog in relation to top of riser pipe intake box or fixed crest, for leakage, and condition of stoplogs, valves and gates. None
OUTLET PIPE: Check for damage from ice, logs, vandalism; inside discharge pipe for settlement and/or joint separation; condition of pipe coating. Good

CONTROL STRUCTURE (continued)

CONCRETE STRUCTURE: Check for erosion; location of cracking or spalling. If old or new; settlement; need for crank repairs.

Good Condition

WALKWAY & RAILING: Check if in place or removed, condition, and if adequate protection provided.

None

TRASHRACK OR LOG BOOM: Check if operable.

Good Condition

EMERGENCY SPILLWAY: Size, type and condition.

None

INLET & OUTLET CHANNELS

	INLET	OUTLET
SIZE	Structure at edge of lake	10'
EXISTING CONDITION	Good	Good
EROSION	None	None
DEBRIS & OBSTRUCTIONS	None	None
RIPRAP PROTECTION	None	None
REMARKS*		

RECOMMENDATIONS

List work needed, how to be done, by whom, estimated cost, source of funds, recommended completion date. If emergency, to what extent. ADDITIONAL COMMENTS.

None

Inspection Ordered By: Joe Parman - Van Buren County Drain Commissioner

Van Buren County Delegated Agent

Jeffrey S. Wingard

INSPECTOR'S NAME (PRINTED)



SIGNATURE

Michigan - 45106

P.E. REGISTRATION NO.

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CITY, STATE, ZIP CODE

(269) 428-4424

TELEPHONE NO.

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LAND AND WATER MANAGEMENT DIVISION
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
PO BOX 30458
LANSING MI 48909-7958

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CONTROL STRUCTURE AT EDGE OF LAKE



OUTLET CHANNEL

PUGSLEY LAKE (BROWNWOOD LAKE)

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DAM NAME Silver Lake Level Control Structure		DAM ID 2205	COUNTY Van Buren
DATE OF INSPECTION April 29, 2011	NAME OF WATERBODY Silver Lake	SECTION, TOWN, RANGE Sec. 9 & 16, T.1S., R.15W.	LEVEL THIS DATE 675.7
DATE OF ELEVATION SET BY COURT April 29, 1986	LEGAL LEVEL 676.0	DRAWDOWN LEVEL	HIGH WATER MARK ELEVATION

EARTH EMBANKMENTS LEFT EMBANKMENT _____ FT. RIGHT EMBANKMENT _____ FT. TOTAL LENGTH _____ FT.
(LOOKING DOWNSTREAM)

	UPSTREAM	CROWN	DOWNSTREAM
VEGETATION COVER			
EROSION			
SEEPAGE			
SLIDES, SLUMPS & CRACKS			
ANIMAL BURROWS			
WAVE ACTION PROTECTION			
REMARKS*			

CONTROL STRUCTURE

TYPE Concrete Box with Concrete Cover	YEAR CONSTRUCTED Unknown	STRUCTURAL HEIGHT (top of dam elevation minus stream invert)
LENGTH OF SPILL WAY None	FREEBOARD	HYDRAULIC HEIGHT (design flood elevation minus stream invert)
VERTICAL PIPE SIZE	HORIZONTAL PIPE SIZE 15" CMP	HEAD (normal headwater minus normal tailwater)

DESCRIBE CONDITION OF THE FOLLOWING ITEMS.

STOPLOG VALVES AND GATES (open and close to check condition): Check location of top stoplog in relation to top of riser pipe intake box or fixed crest, for leakage, and condition of stoplogs, valves and gates. None
OUTLET PIPE: Check for damage from ice, logs, vandalism; inside discharge pipe for settlement and/or joint separation; condition of pipe coating. Outlet Pipe has been extended to edge of Saddle Lake.

CONTROL STRUCTURE (continued)

CONCRETE STRUCTURE: Check for erosion; location of cracking or spalling. If old or new; settlement; need for crank repairs.

Good

WALKWAY & RAILING: Check if in place or removed, condition, and if adequate protection provided.

None

TRASHRACK OR LOG BOOM: Check if operable.

Good

EMERGENCY SPILLWAY: Size, type and condition.

None

INLET & OUTLET CHANNELS

	INLET	OUTLET
SIZE	Structure at edge of lake	Pipe
EXISTING CONDITION	Good	Good
EROSION	None	None
DEBRIS & OBSTRUCTIONS	None	None
RIPRAP PROTECTION	None	Pipe End Section and Riprap
REMARKS*	None	None

RECOMMENDATIONS

List work needed, how to be done, by whom, estimated cost, source of funds, recommended completion date. If emergency, to what extent. ADDITIONAL COMMENTS.

None

Inspection Ordered By: Joe Parman - Van Buren County Drain Commissioner

Van Buren County Delegated Agent

Jeffrey S. Wingard

INSPECTOR'S NAME (PRINTED)



SIGNATURE

Michigan - 45106

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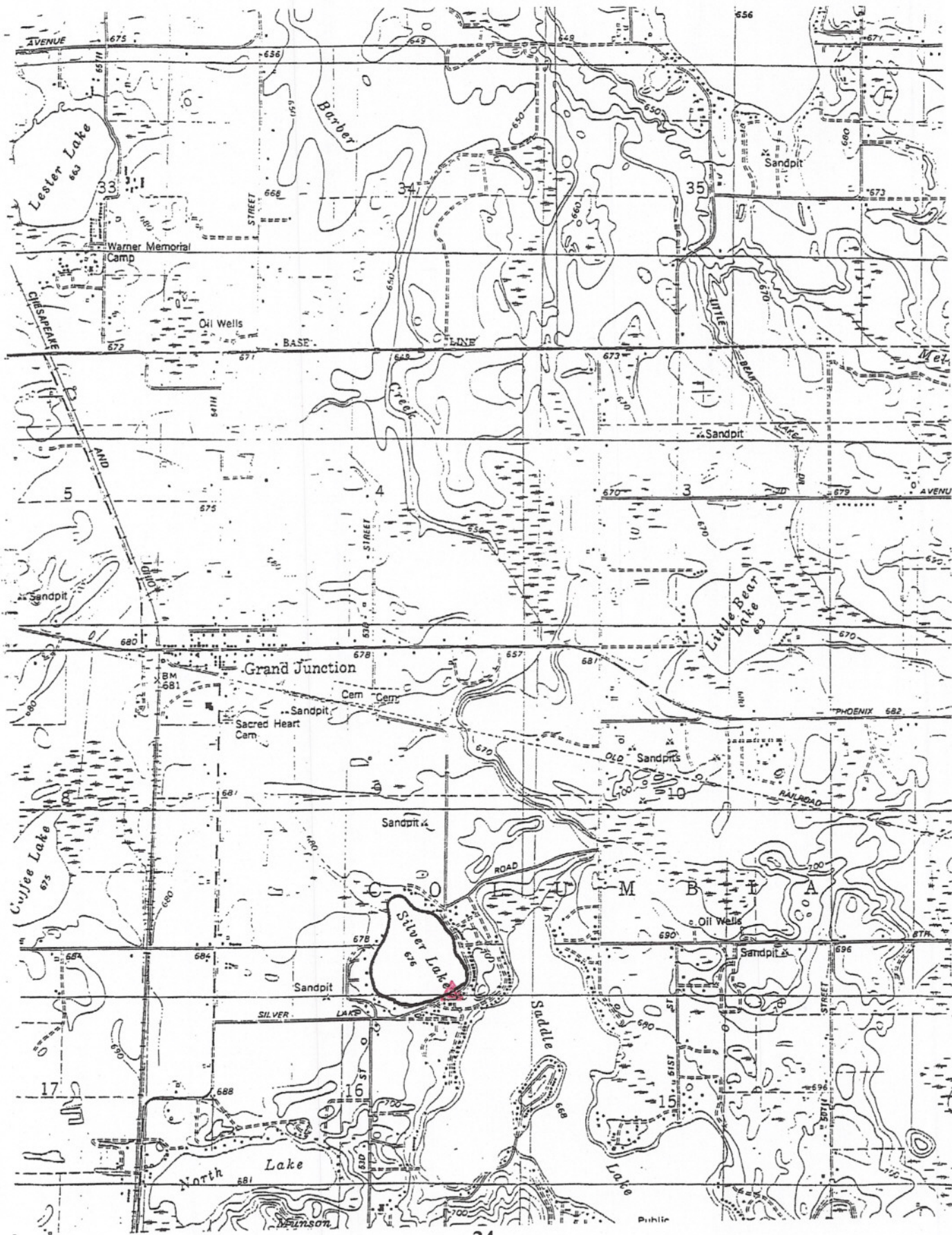
(269) 428-4424

TELEPHONE NO.

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PO BOX 30458
LANSING MI 48909-7958

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CONTROL STRUCTURE AT EDGE OF LAKE



OUTLET PIPE (WITH END SECTION REMOVED)

SILVER LAKE

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A person failing to comply, or falsely representing dam conditions, is guilty of misconduct in office.

DAM NAME Reynolds Lake Level Control Structure		DAM ID 2024	COUNTY Van Buren
DATE OF INSPECTION April 29, 2011	NAME OF WATERBODY Reynolds Lake	SECTION, TOWN, RANGE Sec. 24, T.2S., R.15W.	LEVEL THIS DATE 758.2
DATE OF ELEVATION SET BY COURT May 5, 1951	LEGAL LEVEL 758.0	DRAWDOWN LEVEL N.A.	HIGH WATER MARK ELEVATION

EARTH EMBANKMENTS LEFT EMBANKMENT _____ FT. RIGHT EMBANKMENT _____ FT. TOTAL LENGTH _____ FT.
(LOOKING DOWNSTREAM)

	UPSTREAM	CROWN	DOWNSTREAM
VEGETATION COVER			
EROSION			
SEEPAGE			
SLIDES, SLUMPS & CRACKS			
ANIMAL BURROWS			
WAVE ACTION PROTECTION			
REMARKS*			

CONTROL STRUCTURE

TYPE Steel Sheet Piling	YEAR CONSTRUCTED 1975	STRUCTURAL HEIGHT (top of dam elevation minus stream invert)
LENGTH OF SPILL WAY 7.5'	FREEBOARD 1'	HYDRAULIC HEIGHT (design flood elevation minus stream invert)
VERTICAL PIPE SIZE	HORIZONTAL PIPE SIZE	HEAD (normal headwater minus normal tailwater)

DESCRIBE CONDITION OF THE FOLLOWING ITEMS.

STOPLOG VALVES AND GATES (open and close to check condition): Check location of top stoplog in relation to top of riser pipe intake box or fixed crest, for leakage, and condition of stoplogs, valves and gates.

None

OUTLET PIPE: Check for damage from ice, logs, vandalism; inside discharge pipe for settlement and/or joint separation; condition of pipe coating.

None

CONTROL STRUCTURE (continued)

CONCRETE STRUCTURE: Check for erosion; location of cracking or spalling. If old or new; settlement; need for crank repairs.

None

WALKWAY & RAILING: Check if in place or removed, condition, and if adequate protection provided.

None

TRASHRACK OR LOG BOOM: Check if operable.

None

EMERGENCY SPILLWAY: Size, type and condition.

None

INLET & OUTLET CHANNELS

	INLET	OUTLET
SIZE	10'	8'
EXISTING CONDITION	Fair	Fair
EROSION	None	None
DEBRIS & OBSTRUCTIONS	None	None
RIPRAP PROTECTION	None	None
REMARKS*		

RECOMMENDATIONS

List work needed, how to be done, by whom, estimated cost, source of funds, recommended completion date. If emergency, to what extent. ADDITIONAL COMMENTS.

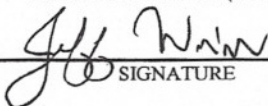
None

Inspection Ordered By: Joe Parman - Van Buren County Drain Commissioner

Van Buren County Delegated Agent

Jeffrey S. Wingard

INSPECTOR'S NAME (PRINTED)



SIGNATURE

Michigan - 45106

P.E. REGISTRATION NO.

4568 Red Arrow Highway

ADDRESS

Stevensville, MI 49127

CITY, STATE, ZIP CODE

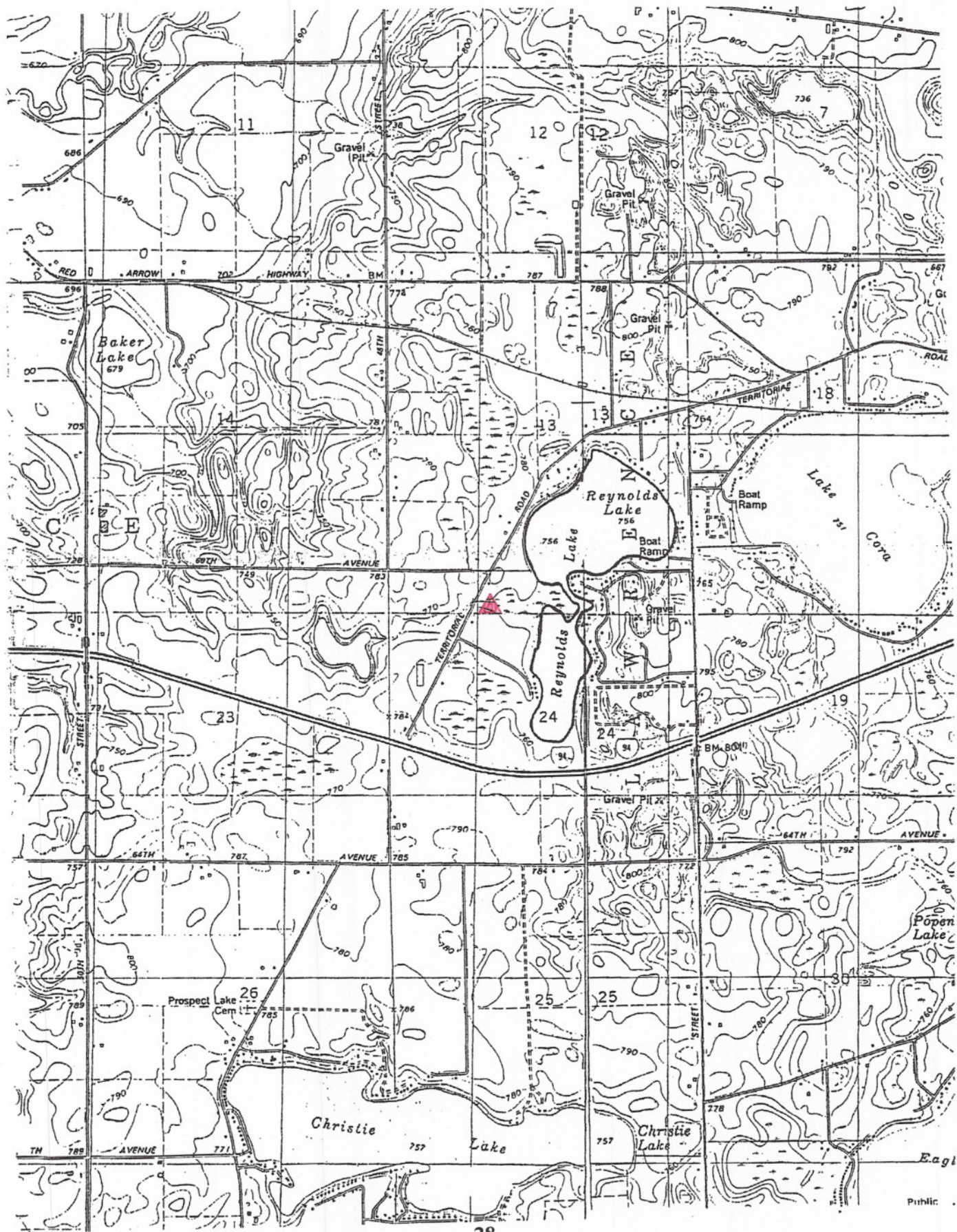
(269) 428-4424

TELEPHONE NO.

Please submit this completed report and photographs of the dam, downstream channel, and deficiencies cited in the report to:

DAM SAFETY
LAND AND WATER MANAGEMENT DIVISION
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
PO BOX 30458
LANSING MI 48909-7958

*NOTE: If space is inadequate for remarks, attach additional sheets as needed.





CONTROL STRUCTURE



CONTROL STRUCTURE AND INLET CHANNEL

REYNOLDS LAKE

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
LAND AND WATER MANAGEMENT DIVISION
DAM INSPECTION REPORT**

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A person failing to comply, or falsely representing dam conditions, is guilty of misconduct in office.

DAM NAME Round Lake Level Control Structure		DAM ID 2028	COUNTY Van Buren
DATE OF INSPECTION April 29, 2011	NAME OF WATERBODY Round Lake	SECTION, TOWN, RANGE Sec. 31, T.4S., R.16W.	LEVEL THIS DATE 766.0
DATE OF ELEVATION SET BY COURT June, 1952	LEGAL LEVEL 766.0 Overflow elev. 768.0	DRAWDOWN LEVEL	HIGH WATER MARK ELEVATION

* Overflow elevation of structure is 768.00

EARTH EMBANKMENTS LEFT EMBANKMENT _____ FT. RIGHT EMBANKMENT _____ FT. TOTAL LENGTH _____ FT.
(LOOKING DOWNSTREAM)

	UPSTREAM	CROWN	DOWNSTREAM
VEGETATION COVER			
EROSION			
SEEPAGE			
SLIDES, SLUMPS & CRACKS			
ANIMAL BURROWS			
WAVE ACTION PROTECTION			
REMARKS*			

CONTROL STRUCTURE		
TYPE Concrete over flow box (2' - 8" x 2' - 8")	YEAR CONSTRUCTED 1996	STRUCTURAL HEIGHT (top of dam elevation minus stream invert)
LENGTH OF SPILL WAY	FREEBOARD 1'	HYDRAULIC HEIGHT (design flood elevation minus stream invert)
VERTICAL PIPE SIZE	HORIZONTAL PIPE SIZE 24"	HEAD (normal headwater minus normal tailwater) 3.0'

DESCRIBE CONDITION OF THE FOLLOWING ITEMS.

STOPLOG VALVES AND GATES (open and close to check condition): Check location of top stoplog in relation to top of riser pipe intake box or fixed crest, for leakage, and condition of stoplogs, valves and gates. Gate Closed (not operated during inspection)
OUTLET PIPE: Check for damage from ice, logs, vandalism; inside discharge pipe for settlement and/or joint separation; condition of pipe coating. 24" pipe is clear

CONTROL STRUCTURE (continued)

CONCRETE STRUCTURE: Check for erosion; location of cracking or spalling. If old or new; settlement; need for crank repairs.

Excellent

WALKWAY & RAILING: Check if in place or removed, condition, and if adequate protection provided.

None

TRASHRACK OR LOG BOOM: Check if operable.

Good

EMERGENCY SPILLWAY: Size, type and condition.

None

INLET & OUTLET CHANNELS

	INLET	OUTLET
SIZE	Structure at edge of wetland	24" CMP
EXISTING CONDITION	Good	Good
EROSION	None	None
DEBRIS & OBSTRUCTIONS	None	None
RIPRAP PROTECTION	None	None
REMARKS*	None	None

RECOMMENDATIONS

List work needed, how to be done, by whom, estimated cost, source of funds, recommended completion date. If emergency, to what extent. ADDITIONAL COMMENTS.

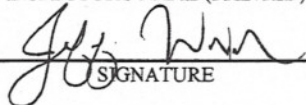
None

Inspection Ordered By: Joe Parman - Van Buren County Drain Commissioner

Van Buren County Delegated Agent

Jeffrey S. Wingard

INSPECTOR'S NAME (PRINTED)



SIGNATURE

Michigan - 45106

P.E. REGISTRATION NO.

4568 Red Arrow Highway

ADDRESS

Stevensville, MI 49127

CITY, STATE, ZIP CODE

(269) 428-4424

TELEPHONE NO.

Please submit this completed report and photographs of the dam, downstream channel, and deficiencies cited in the report to:

DAM SAFETY
LAND AND WATER MANAGEMENT DIVISION
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
PO BOX 30458
LANSING MI 48909-7958

*NOTE: If space is inadequate for remarks, attach additional sheets as needed.





CONTROL STRUCTURE



CONTROL STRUCTURE AND INLET CHANNEL

ROUND LAKE

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
LAND AND WATER MANAGEMENT DIVISION
DAM INSPECTION REPORT**

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A person failing to comply, or falsely representing dam conditions, is guilty of misconduct in office.

DAM NAME Saddle Lake Level Control Structure		DAM ID 2025	COUNTY Van Buren
DATE OF INSPECTION April 29, 2011	NAME OF WATERBODY Saddle Lake	SECTION, TOWN, RANGE Sec. 10, T.1S., R.15W.	LEVEL THIS DATE 668.0
DATE OF ELEVATION SET BY COURT July 6, 1931	LEGAL LEVEL 668.0 Summer 667.67 Winter	DRAWDOWN LEVEL	HIGH WATER MARK ELEVATION

EARTH EMBANKMENTS LEFT EMBANKMENT _____ FT. RIGHT EMBANKMENT _____ FT. TOTAL LENGTH _____ FT.
(LOOKING DOWNSTREAM)

	UPSTREAM	CROWN	DOWNSTREAM
VEGETATION COVER			
EROSION			
SEEPAGE			
SLIDES, SLUMPS & CRACKS			
ANIMAL BURROWS			
WAVE ACTION PROTECTION			
REMARKS*			

CONTROL STRUCTURE

TYPE Sheet Piling	YEAR CONSTRUCTED 1981	STRUCTURAL HEIGHT (top of dam elevation minus stream invert)
LENGTH OF SPILL WAY 20'	FREEBOARD	HYDRAULIC HEIGHT (design flood elevation minus stream invert)
VERTICAL PIPE SIZE	HORIZONTAL PIPE SIZE	HEAD (normal headwater minus normal tailwater)

DESCRIBE CONDITION OF THE FOLLOWING ITEMS.

STOPLOG VALVES AND GATES (open and close to check condition): Check location of top stoplog in relation to top of riser pipe intake box or fixed crest, for leakage, and condition of stoplogs, valves and gates.

Stoplogs not in place at time of inspection

OUTLET PIPE: Check for damage from ice, logs, vandalism; inside discharge pipe for settlement and/or joint separation; condition of pipe coating.

None

CONTROL STRUCTURE (continued)

CONCRETE STRUCTURE: Check for erosion; location of cracking or spalling. If old or new; settlement; need for crank repairs.

None

WALKWAY & RAILING: Check if in place or removed, condition, and if adequate protection provided.

None

TRASHRACK OR LOG BOOM: Check if operable.

None

EMERGENCY SPILLWAY: Size, type and condition.

None

INLET & OUTLET CHANNELS

	INLET	OUTLET
SIZE	16'	12'
EXISTING CONDITION	Good	Fair
EROSION	None	None
DEBRIS & OBSTRUCTIONS	None	Fair
RIPRAP PROTECTION	None	Good
REMARKS*	None	None

RECOMMENDATIONS

List work needed, how to be done, by whom, estimated cost, source of funds, recommended completion date. If emergency, to what extent. ADDITIONAL COMMENTS.

None

Inspection Ordered By: Joe Parman - Van Buren County Drain Commissioner

Van Buren County Delegated Agent

Jeffrey S. Wingard
INSPECTOR'S NAME (PRINTED)
SIGNATUREMichigan - 45106
P.E. REGISTRATION NO.4568 Red Arrow Highway
ADDRESSStevensville, MI 49127
CITY, STATE, ZIP CODE(269) 428-4424
TELEPHONE NO.

Please submit this completed report and photographs of the dam, downstream channel, and deficiencies cited in the report to:

DAM SAFETY
LAND AND WATER MANAGEMENT DIVISION
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
PO BOX 30458
LANSING MI 48909-7958

*NOTE: If space is inadequate for remarks, attach additional sheets as needed.



CONTROL STRUCTURE



OUTLET CHANNEL AND PIPE UNDER ROAD

SADDLE LAKE

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
LAND AND WATER MANAGEMENT DIVISION
DAM INSPECTION REPORT**

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A person failing to comply, or falsely representing dam conditions, is guilty of misconduct in office.

DAM NAME Shafer Lake Level Control Structure		DAM ID 2026	COUNTY Van Buren
DATE OF INSPECTION April 29, 2011	NAME OF WATERBODY Shafer Lake	SECTION, TOWN, RANGE Sec. 19, T.3S., R.15E.	LEVEL THIS DATE 731.5
DATE OF ELEVATION SET BY COURT October 14, 1796	LEGAL LEVEL 731.2	DRAWDOWN LEVEL	HIGH WATER MARK ELEVATION

EARTH EMBANKMENTS LEFT EMBANKMENT _____ FT. RIGHT EMBANKMENT _____ FT. TOTAL LENGTH _____ FT.
(LOOKING DOWNSTREAM)

	UPSTREAM	CROWN	DOWNSTREAM
VEGETATION COVER			
EROSION			
SEEPAGE			
SLIDES, SLUMPS & CRACKS			
ANIMAL BURROWS			
WAVE ACTION PROTECTION			
REMARKS*			

CONTROL STRUCTURE

TYPE Steel Sheet Piling	YEAR CONSTRUCTED 1980	STRUCTURAL HEIGHT (top of dam elevation minus stream invert)
LENGTH OF SPILL WAY 8'	FREEBOARD	HYDRAULIC HEIGHT (design flood elevation minus stream invert)
VERTICAL PIPE SIZE	HORIZONTAL PIPE SIZE	HEAD (normal headwater minus normal tailwater)

DESCRIBE CONDITION OF THE FOLLOWING ITEMS.

STOPLOG VALVES AND GATES (open and close to check condition): Check location of top stoplog in relation to top of riser pipe intake box or fixed crest, for leakage, and condition of stoplogs, valves and gates. None
OUTLET PIPE: Check for damage from ice, logs, vandalism; inside discharge pipe for settlement and/or joint separation; condition of pipe coating. None

CONTROL STRUCTURE (continued)

CONCRETE STRUCTURE: Check for erosion, location of cracking or spalling. If old or new, settlement; need for crank repairs.

None

WALKWAY & RAILING: Check if in place or removed, condition, and if adequate protection provided.

None

TRASHRACK OR LOG BOOM: Check if operable.

None

EMERGENCY SPILLWAY: Size, type and condition.

None

INLET & OUTLET CHANNELS

	INLET	OUTLET
SIZE	Structure at edge of pond	10'
EXISTING CONDITION	Good	Good
EROSION	None	None
DEBRIS & OBSTRUCTIONS	None	None
RIPRAP PROTECTION	None	Good
REMARKS*		

RECOMMENDATIONS

List work needed, how to be done, by whom, estimated cost, source of funds, recommended completion date. If emergency, to what extent. ADDITIONAL COMMENTS.

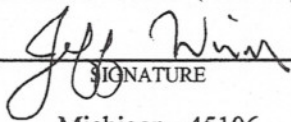
Wooden foot bridge has been replaced.

Inspection Ordered By: Joe Parman - Van Buren County Drain Commissioner

Van Buren County Delegated Agent

Jeffrey S. Wingard

INSPECTOR'S NAME (PRINTED)



SIGNATURE

Michigan - 45106

P.E. REGISTRATION NO.

4568 Red Arrow Highway

ADDRESS

Stevensville, MI 49127

CITY, STATE, ZIP CODE

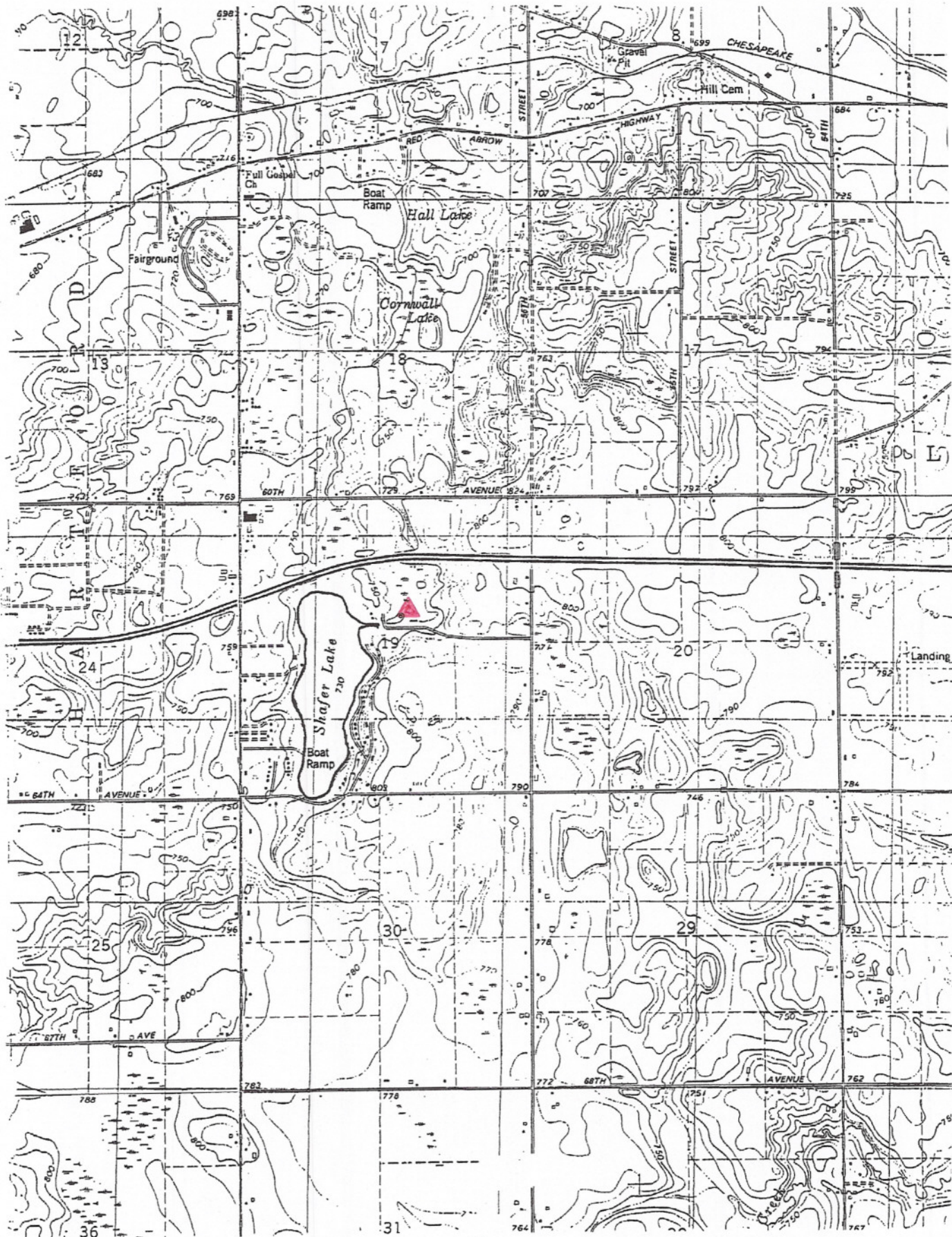
(269) 428-4424

TELEPHONE NO.

Please submit this completed report and photographs of the dam, downstream channel, and deficiencies cited in the report to:

DAM SAFETY
LAND AND WATER MANAGEMENT DIVISION
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
PO BOX 30458
LANSING MI 48909-7958

*NOTE: If space is inadequate for remarks, attach additional sheets as needed.





CONTROL STRUCTURE
(UNDER WOOD BRIDGE)



CONTROL STRUCTURE
(UNDER WOOD BRIDGE)

SHAFFER LAKE

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
LAND AND WATER MANAGEMENT DIVISION
DAM INSPECTION REPORT**

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A person failing to comply, or falsely representing dam conditions, is guilty of misconduct in office.

DAM NAME Scott Lake Level Control Structure		DAM ID 2027	COUNTY Van Buren
DATE OF INSPECTION April 29, 2011	NAME OF WATERBODY Scott Lake	SECTION, TOWN, RANGE Sec. 1, T.2S., R.15W.	LEVEL THIS DATE 679.5
DATE OF ELEVATION SET BY COURT July 14, 1967	LEGAL LEVEL 678.7	DRAWDOWN LEVEL N.A.	HIGH WATER MARK ELEVATION

EARTH EMBANKMENTS LEFT EMBANKMENT _____ FT. RIGHT EMBANKMENT _____ FT. TOTAL LENGTH _____ FT.
(LOOKING DOWNSTREAM)

	UPSTREAM	CROWN	DOWNSTREAM
VEGETATION COVER			
EROSION			
SEEPAGE			
SLIDES, SLUMPS & CRACKS			
ANIMAL BURROWS			
WAVE ACTION PROTECTION			
REMARKS*			

CONTROL STRUCTURE

TYPE Sheeting in front of culvert	YEAR CONSTRUCTED 1967	STRUCTURAL HEIGHT (top of dam elevation minus stream invert)
LENGTH OF SPILL WAY 8.5'	FREEBOARD 2.5'	HYDRAULIC HEIGHT (design flood elevation minus stream invert)
VERTICAL PIPE SIZE	HORIZONTAL PIPE SIZE 54" x 36" Arch CMP	HEAD (normal headwater minus normal tailwater)

DESCRIBE CONDITION OF THE FOLLOWING ITEMS.

STOPLOG VALVES AND GATES (open and close to check condition): Check location of top stoplog in relation to top of riser pipe intake box or fixed crest, for leakage, and condition of stoplogs, valves and gates.
None

OUTLET PIPE: Check for damage from ice, logs, vandalism; inside discharge pipe for settlement and/or joint separation; condition of pipe coating.

Good

CONTROL STRUCTURE (continued)

CONCRETE STRUCTURE: Check for erosion; location of cracking or spalling. If old or new; settlement; need for crank repairs.

None

WALKWAY & RAILING: Check if in place or removed, condition, and if adequate protection provided.

None

TRASHRACK OR LOG BOOM: Check if operable.

None

EMERGENCY SPILLWAY: Size, type and condition.

None

INLET & OUTLET CHANNELS

	INLET	OUTLET
SIZE	30'	12'
EXISTING CONDITION	Good	Good
EROSION	None	None
DEBRIS & OBSTRUCTIONS	None	Good
RIPRAP PROTECTION		Banks of outlet channel are becoming scoured
REMARKS*		Riprap protection is needed for outlet channel

RECOMMENDATIONS

List work needed, how to be done, by whom, estimated cost, source of funds, recommended completion date. If emergency, to what extent. ADDITIONAL COMMENTS.

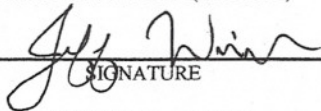
Some erosion at the outlet. Fill and riprap are needed to stabilize outlet.

Inspection Ordered By: Joe Parman - Van Buren County Drain Commissioner

Van Buren County Delegated Agent

Jeffrey S. Wingard

INSPECTOR'S NAME (PRINTED)



SIGNATURE

Michigan - 45106

P.E. REGISTRATION NO.

4568 Red Arrow Highway

ADDRESS

Stevensville, MI 49127

CITY, STATE, ZIP CODE

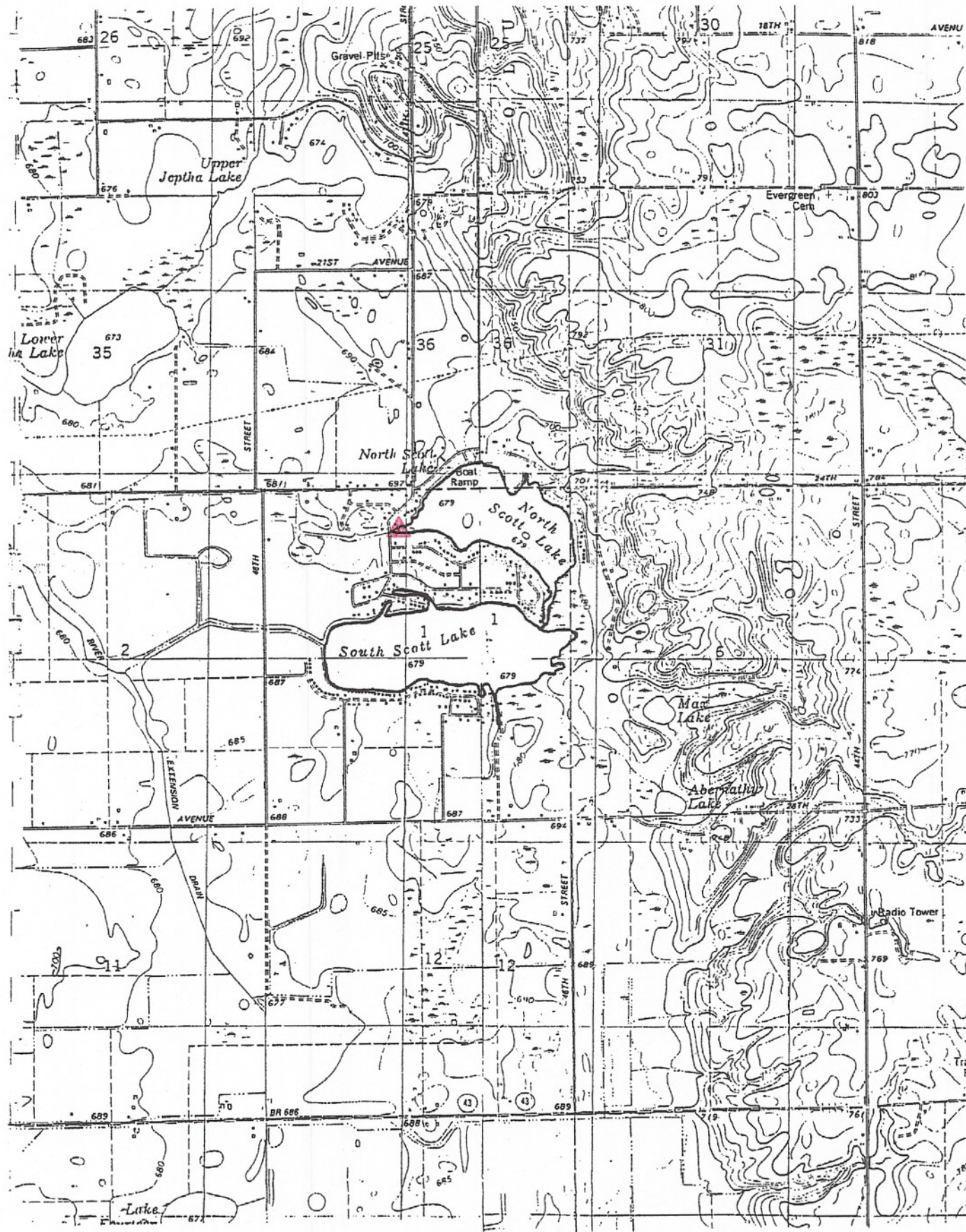
(269) 428-4424

TELEPHONE NO.

Please submit this completed report and photographs of the dam, downstream channel, and deficiencies cited in the report to:

DAM SAFETY
LAND AND WATER MANAGEMENT DIVISION
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
PO BOX 30458
LANSING MI 48909-7958

*NOTE: If space is inadequate for remarks, attach additional sheets as needed.





CONTROL STRUCTURE AND OUTLET PIPE



CONTROL STRUCTURE AND OUTLET PIPE

SCOTT LAKE

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
LAND AND WATER MANAGEMENT DIVISION
DAM INSPECTION REPORT**

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A person failing to comply, or falsely representing dam conditions, is guilty of misconduct in office.

DAM NAME Van Auken Lake Level Control Structure		DAM ID 2028	COUNTY Van Buren
DATE OF INSPECTION April 29, 2011	NAME OF WATERBODY Van Auken Lake	SECTION, TOWN, RANGE Sec. 32, T.2S., R.16W.	LEVEL THIS DATE 649.40
DATE OF ELEVATION SET BY COURT July, 1959	LEGAL LEVEL 648.7	DRAWDOWN LEVEL N.A.	HIGH WATER MARK ELEVATION

EARTH EMBANKMENTS LEFT EMBANKMENT _____ FT. RIGHT EMBANKMENT _____ FT. TOTAL LENGTH _____ FT.
(LOOKING DOWNSTREAM)

	UPSTREAM	CROWN	DOWNSTREAM
VEGETATION COVER			
EROSION			
SEEPAGE			
SLIDES, SLUMPS & CRACKS			
ANIMAL BURROWS			
WAVE ACTION PROTECTION			
REMARKS*			

CONTROL STRUCTURE

TYPE Sheet Piling	YEAR CONSTRUCTED 2000	STRUCTURAL HEIGHT (top of dam elevation minus stream invert) 5.5'
LENGTH OF SPILL WAY 41'	FREEBOARD 2.75'	HYDRAULIC HEIGHT (design flood elevation minus stream invert)
VERTICAL PIPE SIZE	HORIZONTAL PIPE SIZE	HEAD (normal headwater minus normal tailwater)

DESCRIBE CONDITION OF THE FOLLOWING ITEMS.

STOPLOG VALVES AND GATES (open and close to check condition): Check location of top stoplog in relation to top of riser pipe intake box or fixed crest, for leakage, and condition of stoplogs, valves and gates.

None

OUTLET PIPE: Check for damage from ice, logs, vandalism; inside discharge pipe for settlement and/or joint separation; condition of pipe coating.

None

CONTROL STRUCTURE (continued)

CONCRETE STRUCTURE: Check for erosion, location of cracking or spalling. If old or new, settlement, need for crank repairs.

None

WALKWAY & RAILING: Check if in place or removed, condition, and if adequate protection provided.

None

TRASHRACK OR LOG BOOM: Check if operable.

None

EMERGENCY SPILLWAY: Size, type and condition.

None

INLET & OUTLET CHANNELS

	INLET	OUTLET
SIZE	20'	20'
EXISTING CONDITION	Good	Good
EROSION	None	None
DEBRIS & OBSTRUCTIONS	None	None
RIPRAP PROTECTION	None	None
REMARKS*		

RECOMMENDATIONS

List work needed, how to be done, by whom, estimated cost, source of funds, recommended completion date. If emergency, to what extent. ADDITIONAL COMMENTS.

None

Inspection Ordered By: Joe Parman - Van Buren County Drain Commissioner

Van Buren County Delegated Agent

Jeffrey S. Wingard

INSPECTOR'S NAME (PRINTED)



SIGNATURE

Michigan - 45106

P.E. REGISTRATION NO.

4568 Red Arrow Highway

ADDRESS

Stevensville, MI 49127

CITY, STATE, ZIP CODE

(269) 428-4424

TELEPHONE NO.

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MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
PO BOX 30458
LANSING MI 48909-7958

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CONTROL STRUCTURE



CONTROL STRUCTURE

VAN AUKEN LAKE

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LAND AND WATER MANAGEMENT DIVISION
DAM INSPECTION REPORT**

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A person failing to comply, or falsely representing dam conditions, is guilty of misconduct in office.

DAM NAME Lake of the Woods Lake Level Control Structure		DAM ID 2029	COUNTY Van Buren
DATE OF INSPECTION April 29, 2011	NAME OF WATERBODY Lake of the Woods	SECTION, TOWN, RANGE Sec. 24, T.4S., R.15W.	LEVEL THIS DATE 752.0
DATE OF ELEVATION SET BY COURT May 2, 1905	LEGAL LEVEL 751.5	DRAWDOWN LEVEL	HIGH WATER MARK ELEVATION

EARTH EMBANKMENTS LEFT EMBANKMENT _____ FT. RIGHT EMBANKMENT _____ FT. TOTAL LENGTH _____ FT.
(LOOKING DOWNSTREAM)

	UPSTREAM	CROWN	DOWNSTREAM
VEGETATION COVER			
EROSION			
SEEPAGE			
SLIDES, SLUMPS & CRACKS			
ANIMAL BURROWS			
WAVE ACTION PROTECTION			
REMARKS*			

CONTROL STRUCTURE

TYPE U Shaped Sheet Piling	YEAR CONSTRUCTED 1952	STRUCTURAL HEIGHT (top of dam elevation minus stream invert)
LENGTH OF SPILL WAY 24'	FREEBOARD 2'	HYDRAULIC HEIGHT (design flood elevation minus stream invert)
VERTICAL PIPE SIZE	HORIZONTAL PIPE SIZE	HEAD (normal headwater minus normal tailwater)

DESCRIBE CONDITION OF THE FOLLOWING ITEMS.

STOPLOG VALVES AND GATES (open and close to check condition): Check location of top stoplog in relation to top of riser pipe intake box or fixed crest, for leakage, and condition of stoplogs, valves and gates.

None

OUTLET PIPE: Check for damage from ice, logs, vandalism, inside discharge pipe for settlement and/or joint separation; condition of pipe coating.

None

CONTROL STRUCTURE (continued)

CONCRETE STRUCTURE: Check for erosion; location of cracking or spalling. If old or new; settlement; need for crank repairs.

None

WALKWAY & RAILING: Check if in place or removed, condition, and if adequate protection provided.

None

TRASHRACK OR LOG BOOM: Check if operable.

None

EMERGENCY SPILLWAY: Size, type and condition.

None

INLET & OUTLET CHANNELS

	INLET	OUTLET
SIZE	40'	20'
EXISTING CONDITION	Fair	Good
EROSION	None	None
DEBRIS & OBSTRUCTIONS	None	None
RIPRAP PROTECTION		None
REMARKS*	None	None

RECOMMENDATIONS

List work needed, how to be done, by whom, estimated cost, source of funds, recommended completion date. If emergency, to what extent. ADDITIONAL COMMENTS.

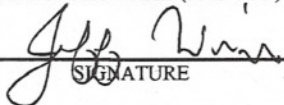
Steel sheeting wingwall is continuing to corrode.
Remove small trees and brush around wingwalls.

Inspection Ordered By: Joe Parman - Van Buren County Drain Commissioner

Van Buren County Delegated Agent

Jeffrey S. Wingard

INSPECTOR'S NAME (PRINTED)



SIGNATURE

Michigan - 45106

P.E. REGISTRATION NO.

4568 Red Arrow Highway

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CITY, STATE, ZIP CODE

(269) 428-4424

TELEPHONE NO.

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MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
PO BOX 30458
LANSING MI 48909-7958

*NOTE: If space is inadequate for remarks, attach additional sheets as needed.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY





CONTROL STRUCTURE – CORRODED STEEL WINGWALL



CONTROL STRUCTURE AND INLET CHANNEL

LAKE OF THE WOODS



CONTROL STRUCTURE – CORRODED STEEL WINGWALL



CONTROL STRUCTURE – CORRODED STEEL WINGWALL

LAKE OF THE WOODS